

CLAIMS:

1.(currently amended) A pathogen reduction device for water comprising:

a) a ~~confined heating zone~~ direct contact water heater for heating pathogen laden water;

b) a means for ~~transporting the water to said confined heating zone so as to facilitate~~

5 ~~heating of the water~~ controlling pathogen laden water flow into said direct contact water heater;

c) a means for ~~preventing the heated water from leaving the device until pathogens~~

~~entrained in the heated water are killed~~ containing water heated by said direct contact water

heater; and

10 d) a means for ~~preventing pathogens entrained in unheated water from leaving the device.~~

controlling the removal of heated water from said water containing means; and

e) means for reducing pathogens in an exhaust gas discharged from said direct contact  
water heater to atmosphere.

2.(currently amended) The device as recited in claim 1 wherein ~~the means for preventing~~

15 ~~pathogens from leaving the device further comprises an antimicrobial substrate~~ said water

containing means includes a storage tank.

3.(currently amended) The device as recited in claim 1 wherein ~~the means for preventing heated~~  
~~water from leaving the device~~ said heated water removal controlling means includes a plurality  
of valves actuated by programmable logic controllers.

20 4.(currently amended) The device as recited in claim 1 wherein ~~the heating zone is subjected to~~  
~~to~~ said direct contact water heater includes exhaust gas from a gas-fired combustion.

5.(currently amended) The device as recited in claim 4 wherein said direct contact water heater  
includes further comprising a zone for ~~imparting low pressure to the~~ reducing exhaust gas  
pressure.

6.(currently amended) The device as recited in claim [6] 1 wherein ~~the one for imparting low pressure to the exhaust gas is intermediate the said direct contact water heater includes an antimicrobial substrate and the heating zone.~~

7.(original) The device as recited in claim 1 wherein said direct contact water heater includes means for heating pathogen laden water to a temperature ~~the water is heated to~~ below its boiling point.

8.(currently amended) The device as recited in claim 1 wherein ~~the confined heating zone contains a means for heating the fluid and the step of subjecting the fluid to the controlled atmosphere further comprises injecting the fluid into the controlled atmosphere at a fluid~~ said pathogen laden water flow controlling means includes defined by the following equation algorithm:

BTU/hr of the heater / (Y x delta T)  
wherein

15           delta T = (Required kill temperature - Coldest possible inlet fluid temperature) and where Y is derived from the following formula:

(Specific heat of the fluid to be heated X Weight of the fluid to be heated X minutes in one hour).

9.(currently amended) A method for reclaiming fluid contaminated with pathogens, the method comprising:

- a) providing a heated, ~~controlled atmosphere~~ direct contact fluid heater for heating a pathogen laden fluid;
- b) subjecting the pathogen laden fluid to the ~~controlled atmosphere~~ heat for a time ~~and at~~ ~~a temperature~~ sufficient to kill pathogens entrained in a liquid phase of the pathogen laden fluid;
- c) subjecting an aerosolized phase of the pathogen laden fluid to an antimicrobial

substrate; and

d) releasing the subjected liquid phase and the subjected aerosolized phase to the ambient environment.

5 10.(currently amended) The method as recited in claim 9 wherein the ~~controlled atmosphere~~  
~~direct contact fluid heater~~ has a positive pressure flow leading to the ambient environment.

11.(original) The method as recited in claim 9 wherein the fluid is water.

12.(original) The method as recited in claim 9 wherein the temperature is below the condensation point of the fluid.

10 13.(currently amended) The method as recited in claim 9 wherein the ~~controlled atmosphere~~  
~~contains direct contact fluid heater includes a means for heating the fluid and the step of~~  
~~subjecting the fluid to the controlled atmosphere further comprises injecting the fluid into the~~  
~~controlled atmosphere direct contact fluid heater~~ at a fluid flow defined by the following  
equation algorithm:

15 BTU/hr of the heater / (Y x delta T)

wherein

delta T = (Required Kill Temperature - Coldest possible inlet fluid temperature)

and where Y is derived from the following formula:

20 (Specific heat of the fluid to be heated X Weight of the fluid to be heated X minutes in  
one hour).

14.(new) The device as recited in claim 1 wherein said atmosphere exhaust pathogens reducing  
means includes a spay curtain disposed above a main water feed nozzle.

15.(new) The method as recited in claim 9 wherein the step of providing a direct contact water  
heater includes the step of providing exhaust gas for engaging the pathogen laden fluid.

25 16.(new) The method as recited in claim 9 wherein the step of subjecting an aerosolized phase